

REMARKS

By this Amendment claims 1, 10 and 13 have been amended to more concisely define the invention, and claim 12 have been revised to better comply with U.S. practice. Entry is requested.

In the outstanding Office Action the examiner has rejected claims 1, 8-11 and 13 under 35 U.S.C. 102(b) as being anticipated by England et al.

This rejection must be withdrawn.

The claims of this application are concerned with shielding the arm which carries the wafer holder in the wafer support apparatus of an ion implanter. The wafer holder itself, in use, supports the semiconductor wafer which is being implanted. The wafer holder is in turn carried by an arm extending into the implantation chamber. This arm is usually used to apply a mechanical scanning action to the wafer holder and the semiconductor wafer carried by the holder in order to scan the wafer through a fixed or scanned ion beam.

Claim 1 has been amended to clearly state that the arm carries the wafer holder. Amended claim 1 further provides an arm shield mechanism on the arm. The shield mechanism has a plurality of shielding surfaces which can be selectively disposed to shield said arm portion from the at least intermittent exposure to the ion beam.

This structure is very different from that disclosed in England et al. This prior art disclosure is concerned with a "beam stop." A beam stop is a structure for trapping the ion beam when this beam is not being intersected by a semiconductor wafer to be implanted. The beam stop is located in the beam line at a position downstream of the wafer support assembly. This is clearly described in England et al., column 1, lines 32 to 36. Accordingly, this beam stop assembly is quite different from the wafer support apparatus of claim 1. The beam stop assembly of England et al. does not have a wafer holder and does not have an arm carrying the wafer holder. In an implanter, such a wafer support apparatus including wafer holder and the arm carrying the wafer holder would be provided additionally to the beam stop and comprises the wafer support assembly at a position upstream of the beam stop. By way of illustration, Figures 3 and 6 of Harrison, U.S.P. 6,608,316 (see accompanying IDS), show the beam stop structure at 30 and the wafer support apparatus slightly upstream at 10. Similarly, in Figure 1 of Mitchell, U.S.P. 6,566,661, the beam stop arrangement is shown at 23 and the wafer support apparatus indicated upstream and comprises an arm 21 carrying wafer holder 20.

In summary, England et al. is concerned with a beam stop with multiple absorbing plates which can be positioned to absorb the beam; whereas claim 1 is directed to an arm shield mechanism for the arm of a wafer holder. The examiner's attention is also drawn to the passage in

England et al., column 1, line 62 to 67 which defines the term "ion absorber" used in the prior art document. Here it is explained that an ion absorber includes what are commonly termed in the art as beam stops, beam dumps and faraday cups or buckets and is to be distinguished from the target or targets, e.g., semiconductor wafers which are implanted with ions.

As such, the examiner's prior art rejection against claim 1 should be withdrawn.

Claim 10 is a method claim which has also been amended in a manner corresponding to amended claim 1, and so should also be allowable.

Independent claim 13 is directed to the shield apparatus per say for mounting on a wafer holder carrying arm, and should be allowable for the same reasons as claims 1 and 10.

Since all independent claims should now be believed to be allowable, the various dependent claims rejected by the examiner should also be allowable.

Favorable reconsideration is requested.

Respectfully submitted,

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